

1. A method of forming a semiconductor-on-insulator structure, comprising the steps of:

a) forming a structure having porous semiconductor material at a first surface thereof;

b) sealing said surface;

c) forming an epitaxial semiconductor layer on said porous semiconductor material after said sealing;

d) implanting an oxidizing species through said epitaxial layer into said porous semiconductor material; and
reacting said oxidizing species with said porous semiconductor material to form a buried dielectric layer beneath said epitaxial layer.

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2. The method of Claim 1, wherein said oxidizing species consists essentially of oxygen.

3. The method of Claim 1, wherein said semiconductor layer consists essentially of silicon.

4. A method of forming a semiconductor-on-insulator structure, comprising the steps of:

a) anodizing a silicon wafer to form porous silicon;

b) sealing said surface;

c) forming a semiconductor layer on said porous silicon after said sealing;

d) implanting an oxidizing species through said epitaxial layer into said porous semiconductor material; and

e) reacting said oxygen with said porous semiconductor material to form a buried oxide layer.

5. The method of Claim 4, wherein said semiconductor layer consists essentially of silicon.

6. A method of forming a semiconductor-on-insulator structure, comprising the steps of:

a) partially anodizing a silicon wafer to form porous silicon; and thereafter

b) sealing said surface;

c) forming an epitaxial semiconductor layer on said porous silicon;

d) implanting oxygen into said porous silicon through said epitaxial semiconductor layer; and

e) reacting said oxygen with said porous silicon to form a buried oxide layer.

7. The method of Claim 6, wherein said oxidizing species consists essentially of oxygen.

8. The integrated circuit of Claim 6, wherein said semiconductor layer consists essentially of silicon.

9. A product made by the process of Claim 1.

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10. A product made by the process of Claim 4.

11. A product made by the process of Claim 6.

12. The method of claim 1 wherein said step of sealing includes heating said porous semiconductor material in a hydrogen ambient.

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13. The method of claim 4 wherein said step of sealing includes heating said porous semiconductor material in a hydrogen ambient.

14. The method of claim 6 wherein said step of sealing includes heating said porous semiconductor material in a hydrogen ambient.
